Environmental Considerations

Introduction

In transportation planning, monitoring and mitigating adverse effects to the environment are integral in the development of a healthy community. Using planning practices and following guidelines from various environmental agencies and mitigation policies, cities have the ability to create a sustainable environment for all of the residents. In this chapter, the ideas and principles of sustainability are explained. The benefits that sustainable planning has on the environment are also noted in this chapter.

With the Longview area teetering on the fringe of 'non-attainment,' and the entire nation placing a larger emphasis on reduction of negative environmental impacts, environmental issues have secured a place in the forefront of planning. All new roads or projects are not only assessed on their environmental impact, but are also scrutinized to find ways to improve multimodalism. In addition, the added value of healthier communities is a benefit that comes with direct correlation to the reduction of toxic emissions and increase of 'sustainable' practices

Sustainability

The principals of sustainability are gaining momentum in the realm of transportation. In simple terms, sustainability is maintaining the quality of life into the future while addressing social, environmental and economic concerns. Sustainable solutions make our cities more livable by integrating and balancing the social, economic and environmental needs of the community for future generations. The three core principles of sustainability are:

- Social – sustainable solutions increase opportunity and improve quality of life for all. They are accessible, safe and secure; ensure mobility choices and are an asset to communities.
- Economy – sustainable solutions support economic vitality, are cost-effective, affordable and make wise use of economic resources such as human, natural, manufactured and financial capital.
- Environment – sustainable solutions are compatible with natural systems and minimize resource use and pollution

A sustainable community sees itself as existing within a physical environment and natural ecosystem and tries to find ways to co-exist with that environment. It does its part by avoiding unnecessary degradation of the air, oceans, fresh water, and other natural systems. In some cases, this means simply protecting the environment by finding ways to redirect human activities and development into less sensitive areas.[1] Cities can increase their sustainability by implementing more environmentally friendly infrastructure and planning practices. Alternative fuels, cleaner forms of producing electricity, and eco-friendly infrastructure such as LED street lighting are examples of sustainable planning. These changes can reduce pollution and increase overall health of a community.

Transportation plays an integral role in sustainable planning. It has a direct, and large effect on the environment. It is a part of everyday life and is required for day to day activities. How transportation planners and local stakeholders plan and develop their communities and how consumers choose to travel affects the social, economic and environmental quality. There are numerous benefits when applying the principles of sustainability to the transportation planning process. Many of these benefits rely on multimodalism. The role transportation plays in sustainability will be covered in more detail in the next chapter, Multimodal Solutions.

Climate Change

There is general scientific consensus that the earth is experiencing a long term warming trend and that human-induced increases in atmospheric greenhouse gases (GHGs) are the primary cause. The combustion of fossil fuels is by far the biggest source of GHG emissions. In the United States, transportation is the second largest source of greenhouse gas (GHG) emissions, after electricity generation. On-road vehicles account for 82% of transportation emissions. Figure A-2 shows the full break-down of transportation emissions.

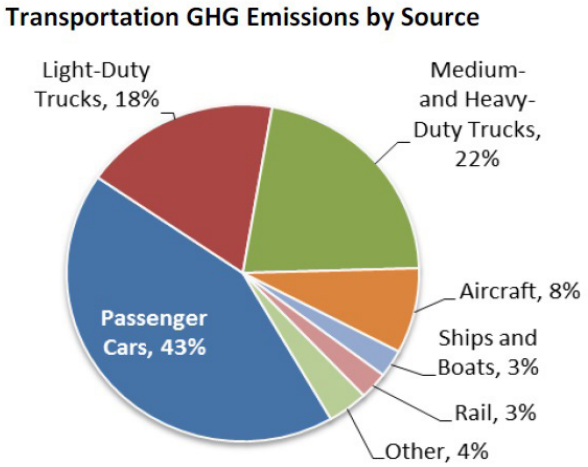

Figure A-2: The pie chart shows the sources of greenhouse gas emissions by type of transportation. Passenger cars make up the majority of these emissions.

Gases that trap heat in the atmosphere are called greenhouse gases. CO_2 is the major greenhouse gas created by cars and trucks and it has a long atmospheric lifetime of 100 years or more. Atmospheric concentrations of GHGs are growing every year because CO_2 emissions are growing. Unlike urban air pollution, which dissipates under the right weather conditions, CO_2 accumulates in the atmosphere because plants and the oceans can't absorb it fast enough.

Opportunities to reduced GHG emissions from transportation include switching to alternative fuels, using more fuel efficient vehicles, and reducing the total number of miles driven. Each of these options requires a mixture of public and private sector involvement. Transportation planning activities, which influence how transportation systems are built and operated,

[1] "Principles of Sustainability." Principles of Sustainability. University of Colorado, n.d. Web. 27 Aug. 2014. <http://www.colorado.edu/hazards/publications/informer/in-frmr3/informer3c.htm>.

while accessibility and mobility have often been interpreted as synonymous with more travel by car and truck, these goals can also be achieved with reduced vehicle travel. Multimodal transportation systems can be coordinated with land use patterns such that people and goods need to travel shorter distances and make fewer trips by car and truck. In fact, travel by private car is inherently inaccessible for many low-income, elderly, and young people. The systematic provision of other options both improves mobility for these populations and helps to reduce GHG emissions.

The impacts of climate change need to be taken into consideration as the transportation system is planned and projects are developed. Issues to consider when evaluating climate change are: the growth of vehicle miles traveled, traffic congestion levels, changing development and land use patterns, temperature swings, sea level rise, accelerated aging of infrastructure from climate change, and rapidly changing fuel and vehicle technologies. Nationally, planners are addressing climate change through existing inter-agency groups. Climate change issues span boundaries of geography and jurisdiction. Many agencies recognize that multi-agency action has the greatest potential to incorporate change into transportation planning.

To ensure a transportation system that will serve the mobility needs of passengers and freight and that fosters economic development between areas, states, cities and counties will need to consider the implications of climate change on their infrastructure to ensure connectivity is preserved. Some strategies to reduce greenhouse gas emissions are:

- Planning Practices
  - Density focused land use planning and urban design
  - Reduce fleet usage by optimizing trips and routes.
  - Encourage ride share programs and 'park & ride' programs. Continue using the travel demand model to assist in planning for future mobility projects.
  - Explore and utilize alternative fuels.
  - Provide incentives for truck stop electrification technologies
- Multimodalism
  - Promote and improve transit services
  - Develop carpooling and van-pooling programs
  - Construct bicycle and pedestrian improvements
- Traffic Operations
  - Implement Intelligent Transportation System Technologies (ITS)
  - Develop congestion management programs
  - Improve signal coordination

Transportation infrastructure, such as roads, highways and interstates, are susceptible to predicted changes in sea levels and increases in severe weather and extreme high temperatures. Long-term transportation planning will need to respond to these threats.

In addition to a physical threat, climate change also poses an economic threat. Climate changes can damage natural environmental assets as well as man made assets. Weather-related natural disasters (as a side-effect of global climate change), can cause damage worth billions of dollars. These losses have a direct toll on local, regional, and national economies.

A secure transportation system ensures the protection of critical infrastructure and exposes users to less risk. Infrastructure protection will require assessing risk from climate-related stresses on the system. Transportation agencies need to consider security as part of a broader consideration that incorporates planning for natural disasters, emergency response and preparedness and infrastructure preservation.

A safe transportation system protects users from hazards, including hazards resulting from climate-related stresses on the system. Transportation agencies need to protect the system from potential floods and perform routine maintenance and replacement on infrastructure components affected by extreme temperatures and storms. Other safety enhancements can actually reduce GHG emissions. Enhancements that reduce the risk of crashes, can also improve traffic flow, as well as reduce GHG emissions. In some cases, slowing vehicle travel speeds can contribute to improved fuel efficiency and improved safety.

Addressing climate change is in the transportation planning process will ensure the sustainability of the nation's highways and transportation system. Because of the increased severity and occurrence of weather related environments, steps must be taken to ensure the sustainability of infrastructure as well as provide safe and efficient movement through natural disasters. The MPO has identified some strategies to adapt to such change and provide a safe and secure transportation system.

- Develop effective safety management strategies.
- Conduct studies on new technology to increase infrastructure resiliency.
- Work with local groups to identify vulnerabilities in emergency management.
- Continued development of the area's Emergency Operations Center (EOC).
- Recognize the potential for damage to the transportation network such as flooded roadways, bridge damage, and accelerated pavement deterioration.

The City of New Orelans in the aftermath of Hurricane Katrina.

Air Quality

Policies

Air quality concerns all of us and has a direct effect on our health and our environment. Most modes of transportation contribute to air pollution. In spite of the relatively low level of traffic congestion in the Longview Metropolitan area, there are occasional short-term spikes in levels of certain pollutants that contribute to the formation of ozone. These spikes could put the area above federal air quality standards. Failure to meet these standards would have a severe impact on capacity transportation improvements as well as on existing business and economic development.

"The Clean Air Act authorizes the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards to protect public health and the environment."

To combat the effects of hazardous emissions from automobiles, Congress enacted the Clean Air Act in 1990. This act is a comprehensive law that regulates airborne emissions from area, mobile, and stationary sources nationwide. Since 1990, ground-level ozone pollution, both regionally and nationally, has been significantly reduced.

The Clean Air Act authorizes the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards to protect public health and the environment. This law specifically;

- Encourages the use of market-based principles and other innovative approaches, like performance-based standards and emission banking and trading;
- Provides a framework from which alternative clean fuels will be used by setting standards in the fleet and a California pilot program that can be met by the most cost-effective combination of fuels and technology;
- Promotes the use of clean, low sulfur coal and natural gas, as well as innovative technologies to clean high sulfur coal through the acid rain program;
- Reduces enough energy waste and creates enough of a market for clean fuels derived from grain and natural gas to cut dependency on oil imports by one million barrels/day;
- Promotes energy conservation through an acid rain program that gives utilities flexibility to obtain needed emission reductions through programs that encourage customers to conserve energy.[2]

There are seven titles in the Clean Air Act. These titles compliment the law to promote a healthy, productive environment, and are linked to sustainable economic growth and a sound energy policy. Title II contains provisions relating to mobile sources. Motor vehicles have become much cleaner in the past decades, with reductions in certain emissions up to 80%. Cars and trucks still account for almost half the emissions of the ozone precursors volatile organic compounds

[2] "Overview." EPA. Environmental Protection Agency, n.d. Web. 27 Aug. 2014. <http://www.epa.gov/ttn/caaa/gen/overview.txt>.
[3] Theodore, Louis, and R. Ryan Dupont. Environmental health and hazard risk assessment: principles and calculations. Boca Raton: CRC Press, 2012. Print.

(VOCs) and nitrogen oxides (NOx), and up to 90% of the carbon monoxide (CO) emissions in large urban areas.[3] This is because the number of automobiles grow as population grows in these urban areas. While the ratio of number of cars to individuals is decreasing, the population momentum of these larger urban areas causes large increases in hazardous emissions. The curbing of this increase is becoming a major concern for planning agencies. An increased emphasis has been put on alternative forms of transportation and sustainable practices. This has become a larger focus for federal, state, and local governments. Sidewalks, bike lanes, trails and other forms of alternative transportation have become important considerations in the planning process to combat negative environmental impacts.

Ozone Formation

The ozone layer in the upper atmosphere protects us from harmful ultraviolet radiation. But this layer is ten miles or higher than the air we breathe. Sustained high concentrations of ozone at ground level can have harmful effects on personal health and vegetation. Breathing ground level ozone can result in respiratory problems such as coughing, throat irritation, burning when taking a deep breath, shortness of breath, and can trigger asthma attacks.[4]

Ozone is formed by a photochemical reaction in the atmosphere. In the presence of sunlight, oxygen reacts with nitrogen oxides (NOx) and volatile organic compounds (VOCs) to produce ozone. NOx and VOC are known as ozone precursors, and reductions in these precursors would decrease ozone. NOx is a mixture of nitrogen oxide and nitrogen dioxide produced by man-made sources, such as boilers, engines, and incinerators, and by natural sources, such as plant decay and lightning. Volatile organic compounds or VOCs are chemicals that evaporate or volatilize when exposed to air. Because they contain carbon, they are called organic. VOCs are used as fuels, such as gasoline and heating oil, and also used in industry and government as degreasers and solvents. Biogenic VOCs emitted by the trees and plants are byproducts created during photosynthesis. Most plants emit some VOCs, but the largest emitters are oaks, pines, sweet gums, and poplar. Plants and trees manufacture and emit a variety of substances called phytochemicals, many of which are VOCs. While biogenic sources are the largest contributor of VOC emissions, producing 1,530 tons per day (tpd), they only contribute 2 tpd, or 0.9% of NOx emissions. This is according to data collected by Environ in 2006.

Status

As of November 2014, the National Ambient Air Quality ozone standard is 75 parts per billion, measured as the annual fourth-highest daily maximum 8-hour concentration, and averaged over three years. Ozone attainment status is the achievement of measured ozone levels below the current air quality standard designed to protect public health.

As of August 2014, based on the Texas Commission on Environmental Quality data, the 8-hour design values for 2012 - 2014 are 71 parts per billion (ppb) at the Longview monitor, 71 ppb at the Tyler monitor and 69 ppb at the Karnack monitor. A map of these monitoring locations can be found in the appendix of this document. These fourth highest readings are averaged with the fourth highest readings from 2012, 2013, and 2014 averages to determine the 2012 – 2014 design

[4] "Indoor Air Can Cause Health Problems." Health Encyclopedia. University of Rochester Medical Center, 27 Aug. 2014. Web. 27 Aug. 2014. <http://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=2163>.

value. These values are below the 8-hour ozone National Ambient Air Quality Standard of 75 parts per billion; therefore, the air quality of the five-county region of Gregg, Harrison, Rusk, Smith and Upshur has attainment status for ozone.[5] Ozone levels are measured at three monitoring stations at the East Texas Regional Airport in Gregg County, the Tyler Airport in Smith County, and at Karnack in Harrison County.

Ozone and Emission Trends

The chart below is a representation of ozone trends from 1998 to 2013. The chart identifies the annual fourth highest eight-hour ozone values for the air quality monitoring sites in Longview, Tyler and Karnack. A map of these locations is available in the appendix. The solid red line marks the 2008 ozone standard of 75 parts per billion (ppb). The dashed red line marks the previous 1996 standard of 84 ppb. Overall, there has been a decline in ozone values since 1998 and a steep decline between 2005 and 2008. The national economic downturn in 2008 and 2009 is one contributing factor for the lowest ozone values. Between 2011 and 2013, the area has seen a decline that has dropped below the current ozone standard.

Figure 5.1 shows that since the 2008-2010 period, ozone levels have shown an overall increase, then a decline to 2011-2013 at all three Northeast Texas monitors. To determine whether or not the region's air

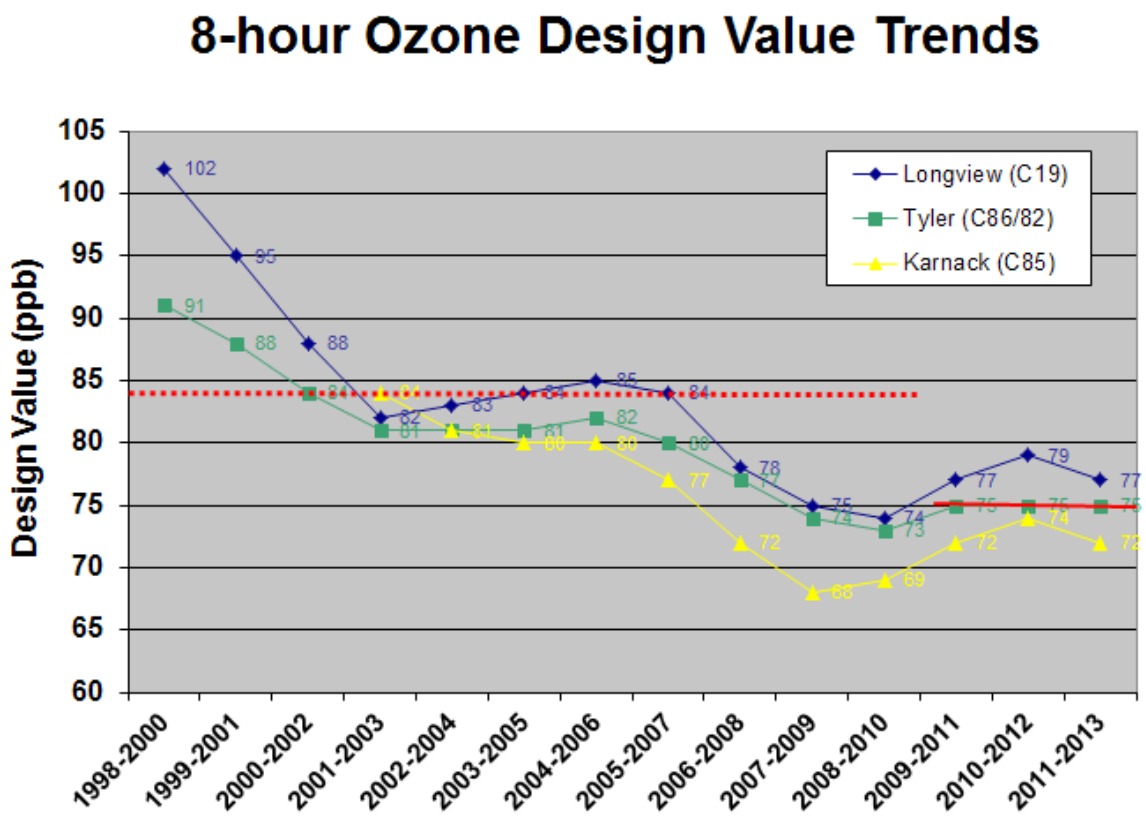

Figure 5.1 Trends in annual 4th highest 8-hour ozone values (upper panel) and design values (lower panel) at the Longview, Tyler, and Karnack monitors in Northeast Texas. The dashed red line indicates the previous 1996 84 ppb standard and the solid red line shows the 2008 75 ppb ozone standard. All data have been validated by the TCEQ. Source: Environ, Inc.

[5] Conceptual Model Update. Tyler-Longview-Marshall: ENVIRON, 2013. Print.`

quality status is in attainment, the EPA averages the annual fourth-highest daily ozone readings over three years. The 3-year average design value for the years 2011-2013 indicates the Longview monitor exceeded the 75 ppb ozone standard. However, the design values for the years 2012-2014 is 71 ppb, which is below the ozone standard.

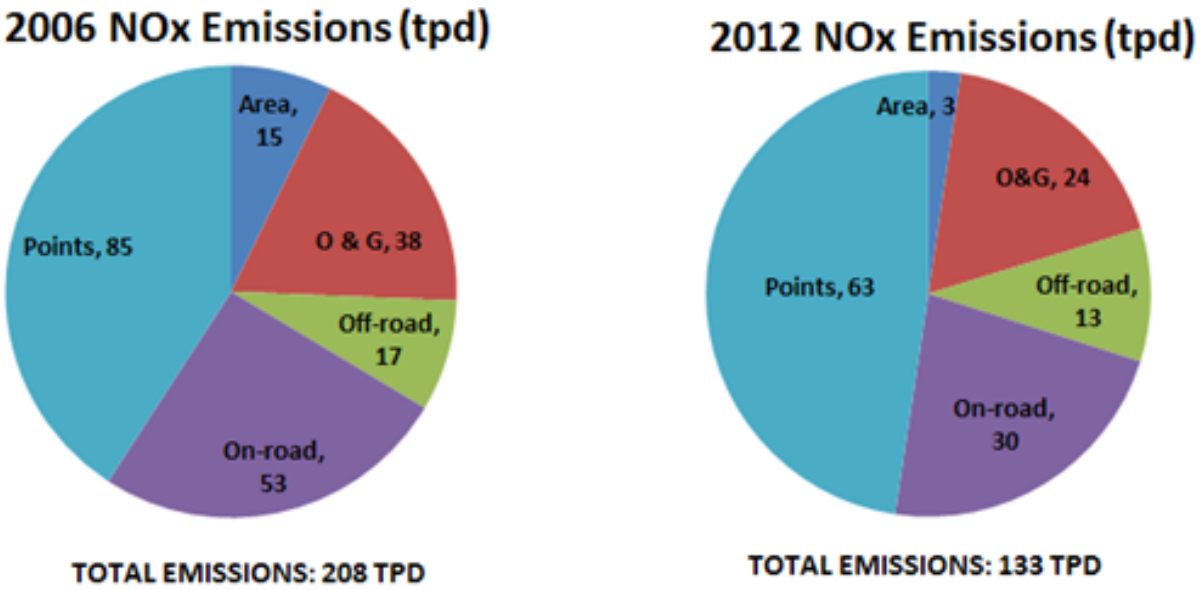

Figure 5.2 Typical summer weekday NOx emissions by sector for 5-county area in Northeast Texas. Comparison between 2006 (left) and 2012 (right) anthropogenic emissions.

Under the Clean Air Act, the EPA is required to review the National Ambient Air Quality Standard (NAAQS) periodically. EPA's next review of the ozone standard is scheduled to be finalized in late 2014. During its previous review in 2010, the EPA announced its intention to reconsider the 75 ppb 2008 ozone standard and proposed to set the new standard in the range 60-70 ppb. In July 2011, the EPA completed its reconsideration of the standard, but did not release a final rule. In September 2011, President Obama announced his decision to let the 2008 ozone standard remain in effect. If the EPA decides to lower the NAAQS to the 60-70 ppb range following its current review, the Longview, Tyler and Karnack monitors will no longer attain the standard. Because failure to comply with the NAAQS carries adverse public health impacts and significant economic penalties, ozone air quality planning is important for Northeast Texas.[5]

Nitrous Oxide (NOx) emissions typically come from 5 different sources. These included point, on-road, off-road, oil & gas, and area. Point sources are defined as stationary, chemical plants, refineries, electric utility plants or other industrial sites that emit more than 10 tons per year of any single or 25 tons of aggregate hazardous air pollutants, such as Volatile Organic Compounds (VOCs), Nitrogen Oxides (NOx) and Carbon (CO). Area sources are comprised of gasoline stations, dry cleaners, oil and gas product storage and transport distribution, painting operations, solvent use, landfills and wastewater treatment facilities. Highway vehicles, both gasoline and diesel belong to the on-road mobile source category. Off-road mobile sources include recreational vehicles, lawn and garden equipment, construction, industrial

[5] Conceptual Model Update. Tyler-Longview-Marshall: ENVIRON, 2013. Print.

and agricultural equipment, and aircraft. The emission totals for 2006 and 2011 can be seen on Figure 5.2.

Other factors contribute to ozone formation: time, place, temperature, and atmospheric conditions, and quantity of transport emissions from other areas. The highest probability of an ozone exceedance occurs on clear days when winds are less than 10 miles per hour and the temperature is over 90 degrees. These conditions most often occur during the summer months. The "ozone season" which runs from May through September is the period when the Texas Commission on Environmental Quality (TCEQ) actively monitors area ozone precursors.

Transport ozone also contributes to the air quality of the region. Ozone formed within and immediately upwind of the Tyler/Longview/Marshall area is often augmented by transport of elevated ozone concentrations from outside the area, almost always from the east/northeast or south/southwest. Only a small amount of additional local ozone production is needed under such conditions to produce exceedances of the 8-hour NAAQS of 75 ppb. The majority of this ozone transported by air comes from the major cities, such as Dallas, Houston, and Shreveport.

NOx emissions showed a significant (36%) decrease from 2006 to 2012. The percentage contribution of each source category to the total NOx emission inventory, however, does not change dramatically. Point sources made up 41% of the NOx emission inventory in 2006 and 48% in 2012. On-road mobile sources went from 26% of the inventory in 2006 to 22% in 2012, while off-road sources went from 8% in 2006 to 10% in 2012. Oil and gas area sources were 18% of the total NOx emissions in both 2006 and 2012 and non-oil and gas area sources went from 7% of the inventory in 2006 to 2% in 2012.[5]

Transportation Conformity

Should Longview be designated as nonattainment, added capacity transportation projects must be subjected to a process known as model-based transportation conformity determination. Transportation conformity is a requirement of Section 176[c] (42 U.S.C. 7506(c)) of the federal Clean Air Act. Section 176[c] states that "No federal agency may approve, accept or fund any transportation plan, program or project unless such plan, program or project has been found to conform to any applicable implementation plan in effect under this act." The transportation conformity rule requires Metropolitan Planning Organizations in nonattainment areas to demonstrate through regional analysis, that the estimated on-road motor vehicle emissions from the transportation plans, programs and projects will be less than the allowable estimated on-road motor vehicle emissions listed in the state's air quality plan called the State Implementation Plan (SIP). Developed by the Texas Commission on Environmental Quality, the SIP is submitted to the EPA to show that the state is fulfilling the requirements of the Clean Air Act. Elements contained in the SIP are an area emissions inventory, monitoring data, motor vehicle rules, industrial controls, consumer project rules and other control strategies. The SIP also includes a requirement of the Clean Air Act, to maintain a certain rate of progress where the emissions are reduced on an annual basis by a certain percentage.

Nonattainment areas are required to demonstrate transportation conformity within the Metropolitan

[5] Conceptual Model Update. Tyler-Longview-Marshall: ENVIRON, 2013. Print.

Transportation Plan and Transportation Improvement Program. Failure to meet these requirements can have grave consequences such as withdrawal of federal funds for transportation capacity improvement projects.

If transportation conformity cannot be demonstrated, a conformity lapse occurs where only certain projects are allowed to progress through the transportation programming process. Certain highway projects are exempt from the transportation conformity rule. Exempt projects are safety, maintenance, mass transit or non-capacity projects, transportation control measures listed in the SIP, and non-federal projects from the first three years of the last conforming Transportation Improvement Program. Capacity projects, where additional lanes are added or new roadways are constructed, could experience funding forfeiture if conformity cannot be demonstrated. Past experience in nonattainment cities has shown that the conformity process is burdensome and that demonstrating conformity is extremely challenging. In addition to controls directly affecting transportation planning, nonattainment designation will impact economic growth. Industrial facilities may have to limit decision-making in the permit process. The expansion; new businesses may prefer to locate elsewhere to avoid regulatory burdens; and automobile owners may be required to have emissions inspections.

Wetlands

Wetlands are areas that connect deep water and land, which help control floodwater and can filter pollutants. Wetlands areas such as marshes, swamps, ponds and bogs are biological nurseries for migratory birds, fish and aquatic plants. They also provide an important function of natural flood and erosion control. Unfortunately over time, wetlands are disappearing nationwide. In Texas, the U.S. Fish and Wildlife Service estimates the state lost approximately 8.4 million acres or 52 percent of wetlands between Colonial times and the 1980's. The U.S Department of Transportation's Federal Highway Administration joined with the Environmental Protection Agency and the U.S Army Corps of Engineers

Wetlands pool at Franklin Parker Preserve Wetlands are some of the most productive and dynamic habitats in the world.

and issued guidance in 2003 to help ensure the effective replacement of wetlands affected by federal-aid highway projects and improve regulatory Transportation Equity Act for the 21st Century established a preference for mitigation banking to compensate for unavoidable losses to wetlands or other natural habitats caused by transportation projects receiving federal assistance. Mitigation banking is a system for balancing wetland losses against wetland gains. The National Wetlands Mitigation Action Plan affirms the goal of "no net loss" of the nation's wetlands.[6]

Sabine River seen with iconic East Texas oil wells - u/redmutt1898

Located throughout the Longview Metropolitan Area, the Sabine River is an important water source serving multiple cities and communities. Valued as a critical natural resource, the Sabine River poses challenges for transportation planning efforts. Environmental issues must be addressed early in the planning process and transportation projects should be developed to minimize adverse impacts to environmentally sensitive areas. The U.S. Army Corps of Engineers has jurisdiction over waters in the United States and is the designated agency that issues wetlands permits. Prior to issuing a permit, the Corps of Engineers solicits input from environmental entities such as the Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the Texas Commission on Environmental Quality. Project owners like the Texas Department of Transportation and cities use the following mitigation measures to lessen environmental impacts to wetlands:

- Avoidance: Whenever possible, the preferred option is location of the project on an alternate upland site to avoid wetland damage or loss.

- Minimization: If there is no reasonable alternate path, the project is designed to minimize adverse environmental impact. An example is surrounding a wetland area with a silt screen to prevent eroding soil from damaging the wetlands

- Compensation: In some cases, construction is allowed in a wetlands area when equal amounts of wetlands elsewhere are permanently preserved from development.

From a transportation construction standpoint, building a project in or through wetlands is not only costly and time consuming in terms of environmental assessment and permitting, but is also usually expensive because of the additional engineering required to stabilize roads or bridges in wet soil and avoid flooding during heavy rains or wet seasons. For these reasons, construction through designated wetlands tends to be avoided whenever possible.

The most significant wetlands in Longview are along the Sabine River, which runs east west through southern Gregg County. Longview's primary east-west transportation corridor, Interstate 20, traverses major wetland areas along the Sabine River system. Arterial development in Longview has skirted most of the wetlands

[6] "Federal Agencies Advance Wetlands Protection and Transportation Goals (7/11/03) | Press Releases | Federal Highway Administration." Briefing Room. FHWA, n.d. Web. 27 Aug. 2014. <http://www.fhwa.dot.gov/pressroom fhwa0324.cfm>.

system. Access to Interstate 20, particularly from western Longview, is limited and frontage roads are few. State Highways 31, 149, and FM 2087 are the only principals arterials crossing through major wetland areas to connect with Interstate 20. When new alignment projects directly cross wetland areas or the Sabine River, they will require a significant number of bridges. It is important to note the cost/benefit scale is highly affected by the overall cost to provide mobility across the wetlands. It is most likely that the proposed new alignments would be used for mobility purposes only, since land use development within the wetlands area will be minimal.

Environmental Initiatives

NETAC

Maintaining our air quality attainment status is one of the region's primary goals. A voluntary coalition of government, industry, business and individuals in the five county region of Gregg, Harrison, Rusk, Smith and Upshur, known as Northeast Texas Air Care (NETAC), was formed in 1994. Dedicated to improving air quality, NETAC supplies technical assistance to local industry and provides public education and is committed to ensuring air quality standards are met to ensure public health and economic growth. NETAC is comprised of two committees: the Policy and Technical Advisory Committees. The Policy Committee is co-chaired by the Tyler mayor and the Gregg County judge. The remaining twenty-four members of the Policy Board include county judges, mayors, city managers, and chief executive officers from major employers. NETAC's Technical Committee consists of environmentalists and technical staff from the cities of Longview, Tyler, Marshall, Kilgore, utility companies, major employers, medical professionals, economic development corporations, the Texas Department of Transportation, Longview MPO and the Tyler MPO. The Technical Committee is responsible for technical review and detailed analysis of regional air quality related policy and technology.

In order to raise public awareness, NETAC has developed a public education and outreach program. NETAC has developed radio and television public service announcements informing citizens and companies of the steps they can take to reduce emissions, such as carpooling, share rides, riding transit, delay fleet refueling until late in the day, postpone maintenance painting, cleaning and mowing activities until ozone action days have passed.

Ozone Advance

In 2013, the five-county NETAC area was approved as a participant in the Ozone Advance Program. Ozone Advance is a collaborative effort by the EPA, states, and local communities to encourage reductions in ozone attainment areas to maintain the ozone standard, especially in areas that are near nonattainment. This proactive program encourages expeditious emission reductions to help the area meet the National Ambient Air Quality Standard. Strategies in this program include such activities as alternative commuting, burn bans, travel efficiency strategies, etc. These are to be implemented and carried out by the local agencies. The goals of the Ozone Advance Program are:

- Help attainment areas reduce emissions in order to ensure continued health protection,
- Better position areas to remain in attainment, and
- Efficiently direct available resources toward actions to address ozone and fine particle problems quickly.

While participation in the program is not a guarantee that an area will avoid a future

nonattainment designation, it can better position the area to comply with the requirements associated with such designations. NETAC provides technical assistance to local industry and public education.

Ozone Action Days

Since conditions favoring ozone formation can be predicted, the Texas Commission on Environmental Quality alerts the community, in the form of announcing an Ozone Action Day, when these conditions are likely to cause an exceedance. Publicity and media news releases heighten public awareness, which in turn, can assist in reducing emissions. Suggested measures for citizens to reduce ozone precursors are: reducing vehicular trips, walking, bicycling, postponing filling of gas tanks or mowing lawns until late in the day, keeping cars in good operating condition, and buying products with lower Volatile Organic Compound (VOC) ratings. These voluntary measures are cost-effective and could make the difference in improving air quality status.

Alternative Fuels

Another method of reducing mobile source emissions is to use cleaner burning fuels than regular gasoline. The Alternative Fuels Program promotes the use of alternative transportation fuels in Texas through demonstrating their positive environmental impact, technical feasibility and energy efficiency. Originally designed to assist state agencies under legislative mandate to operate a percentage of their fleets on alternative fuels, the program currently is more inclusive. Some alternative fuels have already been implemented and being used in the Longview area. the City of Longview sanitation department invested in a fleet of compressed natural gas (CNG) as well as a refueling station at their offices. in

Photos: Left - South Korean bus being implemented in Seoul that uses only electricity as a fuel source, Top Right - Truck that uses ultra low sulfur disel as a primary fuel source, Bottom Right - Natural gas fuel pump at the Longview Public Works Building.

[7] "NEPAssist Tool." NEPAssist Home. US Environmental Protection Agency, n.d. Web. 27 Aug. 2014. <http://nepassisttool.epa.gov/nepassist/entry.aspx>.

addition to the city's sanitation services, a travel center along I-20 currently offers a CNG refueling station for interstate travel. Longview Transit currently utilizes the ultra-low sulfur diesel as its' primary fuel source. The transit agency is currently investigating the benefits of using CNG and diesel/ electric hybrid options to be implemented within the next ten (10) years

City of Longview's sanitation fleet runs on CNG fuel.

Impact & Assessment Tools

NEPAssist

NEPAssist is a tool that facilitates the environmental review process and project planning in relation to environmental considerations. The web-based application draws environmental data dynamically from EPA's Geographic Information System databases and web services and provides immediate screening of environmental assessment indicators for a user-defined area of interest. These features contribute to a streamlined review process that potentially raises important environmental issues at the earliest stages of project development.[7]

This tool is designed to assist in the NEPA process. The National Environmental Policy Act (NEPA) requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

To meet NEPA requirements, federal agencies prepare a detailed statement known as an Environmental Impact Statement (EIS). EPA reviews and comments on EISs prepared by other federal agencies, maintains a national filing system for all EISs, and assures that its own actions comply with NEPA.[8] While using the NEPAssist tool does not complete an EIS, it does give planning agencies an early idea of what issues currently exist in a project location. Examples include stream and wetlands location, as well as demographic data. Environmental Justice (EJ) determination by the MPO is assisted by the NEPAssist tool. Using census demographic data in the process, the NEPAssist tool includes up-to-date information on potential EJ populations. This allows for early detection to properly plan for and mitigate adverse effects to the EJ populations by transportation projects.

[7] "NEPAssist Tool." NEPAssist Home. US Environmental Protection Agency, n.d. Web. 27 Aug. 2014. <http://nepassisttool.epa.gov/nepassist/entry.aspx>.
[8] "Natural Environment Policy Act (NEPA)." Natural Environment Policy Act (NEPA). Environmental Protection Agency (EPA), n.d. Web. 27 Aug. 2014. <http://www.epa.gov/Compliance/nepa/index.html>.